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**5 SEM TDC ZOOH (CBCS) C 12**

**2 0 2 2**

( Nov/Dec )

**ZOOLOGY**

( Core )

Paper : C-12

**( Principles of Genetics )**

*Full Marks : 53*

*Pass Marks : 21*

*Time : 3 hours*

*The figures in the margin indicate full marks  
for the questions*

**1. Fill in the blanks :** **1×5=5**

(a) Inheritance of Y-linked genes is called  
\_\_\_\_\_.

(b) Chromosomal theory of linkage is  
proposed by \_\_\_\_\_.

(c) Klinefelter's syndrome is a type of \_\_\_\_\_  
disorder.

( 2 )

( 3 )

(d) The  $F_2$  ratio in polygenic inheritance is \_\_\_\_.

(e) The transposing elements in *Drosophila* are known as \_\_\_\_ elements.

2. Write briefly on any two of the following :

3×2=6

(a) Epistasis

(b) Codominance

(c) Incomplete dominance

3. What is crossing-over? Write briefly about cytological basis of crossing-over.

2+5=7

Or

Define linkage. Explain it with a suitable example.

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4. What is chromosomal aberration? Explain any two forms of chromosomal anomalies in human.

2+5=7

Or

What are mutagens? Give examples of some mutagens. Explain briefly the methods of detection of mutation.

2+2+3=7

5. Explain the mechanism of sex determination in man.

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6. What do you mean by extrachromosomal inheritance? Write about antibiotic resistance in *Chlamydomonas*.

3+4=7

7. What is polygenic inheritance? Distinguish between transformation and transduction.

3+4=7

8. What is transposon? Write about  $A_c$ - $D_s$  elements in maize or P elements in *Drosophila*.

2+5=7

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